

8.0 Adequacy of Nursing Workforce to Meet Higher Minimum Nurse Staffing Requirements¹

8.1 Introduction

An important issue in considering the appropriateness of minimum nurse staffing levels is whether the nursing workforce will be adequate to meet higher workforce requirements that would result from adoption of a staffing requirement. While the available data limit the extent to which we can measure the size of any current nursing shortage, there are good reasons for believing that a nursing shortage does currently exist and is likely to become worse over the next few years.

- Several factors, including nurses' decreased levels of job satisfaction, may cause some nurses to leave the profession. These factors may also affect future entry into nursing. Job satisfaction is likely related to the current recruitment and retention problems experienced by many nursing homes. (See chapter 5 for a discussion of turnover in nursing facilities.)
- The licensed nurse workforce is aging, and the average age of a registered nurse (RN) increased from 37 years in 1983 to 42 in 1998. Enrollment in registered nursing programs has declined over the past 5 years.
- Because of population changes, the demand for nursing care is expected to steadily increase. There is expected to be rapid growth of the elderly population — the number of individuals aged 85 and over, those most in need of nursing care, is expected to more than double over the next 30 years.
- Population trends suggest that the number of individuals entering the nursing profession will increase only slightly. The projected size of the female population between the ages of 25 and 54, the group which has traditionally filled most nurse aide positions, is expected to remain relatively unchanged between 2000 and 2030, limiting likely entry into nursing.

The nursing shortage may have a real impact on the feasibility and costs of implementing a minimum nurse staffing level. Some facilities would need to make large increases in their nursing workforce in order to staff at the minimum levels identified in Chapter 2. It may mean that the staffing requirement needs to be phased in over a multi-year period to give providers the opportunity to recruit and train the required additional staff. The purpose of this

¹ This chapter was written by Alan White, Leighna Kim and Deborah Deitz of Abt Associates.

chapter is to assess the feasibility of implementing a new minimum staffing requirement for long term care facilities, given the widespread perception of a nursing shortage.

To support our analysis, we reviewed recent literature on the adequacy of the current and projected future workforce for registered nurses (RNs), licensed practical nurses (LPNs), and nurse aides. Our analyses focused on three primary subject areas:

- Current workforce conditions — is there evidence of a current nursing shortage?
- Factors affecting the future demand for nursing services—How much will demand for nursing services change due to the growth and aging of the population? How would adoption of the minimum staffing ratios identified in Chapter 2 affect the demand for nurses?
- Factors affecting the future supply of nurses—How are demographic and labor market trends and changes in other factors likely to affect the size of the nursing workforce in the future?

8.2 Current Labor Market Conditions

8.2.1 Current Employment of RNs, LPNs, and Nurse Aides.

According to the Bureau of Labor Statistics (BLS), in 1999, there were more than 1.5 million RNs, 250,000 LPNs, and 1.4 million nurse aides employed in the United States. Of these, 150,000 RNs, 208,000 LPNs, and almost 700,000 nurse aides were employed in nursing homes (Table 8.1). The BLS does not include nurses employed in such settings as ambulatory care, nursing education, federal agencies, or other health care associations. The 2000 Survey of Registered Nurses estimates that there were more than 700,000 RNs employed in nursing who did not work in a hospital, nursing home, or home health setting.

According to the 2000 National Sample of Registered Nurses, the number of RNs in the United States increased by 5.4 percent between 1996 and 2000, the smallest increase reported in previous national surveys. The number of RNs increased by 14.2 percent between 1992 and 1996.

Table 8.1
Number of RNs, LPNs, and Nurse Aides by
Employment Setting, 1999

	Hospital	Nursing Home	Home Health
RN	1,280,510	150,230	108,310
LPN	200,030	208,030	44,460
Nurse Aide	388,280	695,570	344,200

Source: Bureau of Labor Statistics, 1999

8.2.2 Studies of Existence of Current Nursing Shortage

A large number of studies have referred to the existence of a current nursing shortage in particular parts of the country, but there is a lack of national data for describing whether the current number of RNs, LPNs, and nurse aides is adequate.

Vacancy rates. A number of recent studies suggest the existence of a current shortage based on analysis of vacancy rates. (Note that because different methods may be used to calculate vacancy rates, caution should be used in comparing vacancy rates across studies).

- A recent survey in Vermont found that nursing homes had RN vacancy rates of 15.9 percent. Hospitals had a vacancy rate of 4.8 percent, up from 1.2 percent in 1996 (GAO, 2001A).
- A survey conducted by the Association of Maryland Hospitals and Health Systems reported a statewide average RN vacancy rate at hospitals of 14.7 percent, up from 3.3 percent in 1997 (GAO, 2001B).
- In Massachusetts, nursing home providers reported an 11 percent vacancy rate in their paraprofessional positions and a 12 percent vacancy rate in their professional nursing positions (Frank et al., 2000).
- According to a June 2001 survey conducted by the American Hospital Association, 11 of the 17 state hospital associations that maintain records on statewide vacancy rates reported an average vacancy rate of 10 percent or higher (GAO, 2001B).
- California reported an average RN vacancy rate of 20 percent (GAO, 2001B), a much higher rate than that reported in 1997, when the state had an RN vacancy rate of 8.5 percent (and 6.9 percent for nursing homes) (GAO, 2001A).

Staffing shortages. According to several studies, a large number of nursing homes are currently experiencing staffing shortages.

- A 2000 study of the nurse aide workforce in Pennsylvania showed that staff shortages were reported by 75 percent of nursing homes (GAO, 2001A).
- A 1999 survey conducted by North Carolina Division of Facilities found that 42 of the 48 continental states reported recruitment and retention problems among their paraprofessional healthcare workforce (Frank and Dawson, 2000).
- In a survey conducted across New York State in 2000 (HANYs, 2000), 92 percent of nursing homes reported worker shortages. 55 percent of nursing homes reported retention difficulties. Continuing care members have identified the shortage of certified nurse aides and licensed practical nurses as the most critical.

Turnover rates. Nursing home turnover levels for a three state sample (California, Kansas, and Wisconsin) are described in detail in Chapter 4. We found that average turnover rates for nurse aides ranged from 76 percent in Wisconsin to 78 percent in California, and 100 percent for Kansas. There was considerable facility level variance in reported turnover rates. Other studies have also reported high turnover levels.

- The American Health Care Association's 1998 Nursing Facility Sourcebook reported average turnover rates of 93 percent for nurse aides and 51 percent for RNs and LPNs. These figures were based on a 1997 survey of for-profit nursing home chains.
- In Massachusetts, reports show annual turnover rates of 70-100 percent among paraprofessionals working in nursing homes (Frank et al., 2000).

Analysis of factors related to nursing home turnover can be found in chapters 4 and 5. Other studies have found that nurse aides are leaving nursing for other employment opportunities of similar or better pay or benefits for less demanding work (Institute of Medicine, 1996).

8.3 Factors Affecting Future Demand for Nursing Services

In this section, we describe the impact that projected population changes and the potential introduction of the minimum nurse staffing ratios identified in Chapter 2 would have on the demand for nursing services.

8.3.1 Population Changes

Growth and aging of the population is expected to be the primary factor driving increased demand for nursing services. Even without a minimum staffing requirement for nursing homes, population changes will almost certainly result in steady increases in the demand for nurses.

The American population is expected to experience major demographic changes over the next 20 years. The U.S. Bureau of the Census projects steady population increases during the

period, with total population increasing from 274 million in the year 2000 to 298 million in the year 2010 and 323 million by the year 2020 (Table 8.2).

The projected change in the size of the aged population gives a good proxy for the anticipated increase in demand for nursing services, given that the elderly population is most in need of nursing home and home health care, and also have a disproportionate share of hospital stays. There is expected to be rapid growth in the size of the elderly population, as the baby boom generation ages:

- The over-65 population is projected to increase from 34 million in the year 2000 to more than 39 million in 2010 and 53 million by the year 2020.
- The number of individuals age 85 or over, those most in need of nursing home care, is expected to more than double between 2000 and 2030.
- By 2030, 2.4 percent of the population is projected to be age 65 or over, compared to 1.5 percent in the year 2000.

This aging of the population will almost certainly result in increased demand for nursing services, although the size of the increase will likely vary across different health care settings depending on the relationship between age and demand. Nursing home occupancy rates have declined in recent years, from 93 percent in 1993 to 90 percent in 1997 (AHCA, 1998).

It is possible that demand for nursing home care may increase at a slower rate than the rate at which the elderly population grows, as the elderly may continue to make greater use of home health care, adult day care, or assisted living facilities. The nursing home population has declined by 18 percent since 1985, despite increases in the elderly population. While the settings in which the aging population seeks care may change, demand for RNs, LPNs and nurse aides is expected to increase substantially due to population changes. The American Health Care Association projects that, between 1990 and 2020, the demand for RNs in nursing homes will increase by 66 percent (AHCA, 2000).

Table 8.2						
U.S. Bureau of the Census Projected Population by Age Group						
Age category	Population (in thousands)					
	(percentage of total)					
	2000	2005	2010	2015	2020	2030
Total	274,634	285,981	297,716	310,134	322,742	346,899
0-19	78,784 (28.7%)	80,271 (28.1%)	81,514 (27.4%)	83,163 (26.8%)	86,225 (26.8%)	92,867 (26.8%)
20-34	55,490 (20.2%)	56,266 (19.7%)	59,426 (20.0%)	62,960 (20.3%)	64,232 (19.9%)	65,145 (18.8%)
35-44	44,659 (16.3%)	42,165 (14.7%)	38,521 (12.9%)	37,598 (12.1%)	39,612 (12.3%)	44,263 (12.8%)
45-54	37,030 (13.1%)	41,506 (14.5%)	43,564 (14.6%)	41,196 (13.3%)	37,739 (11.7%)	38,897 (11.2%)
55-64	23,961 (8.6%)	29,605 (10.4%)	35,283 (11.9%)	39,650 (12.8%)	41,714 (12.9%)	36,348 (10.5%)
65-74	18,136 (6.7%)	18,369 (6.4%)	21,057 (7.1%)	26,244 (8.5%)	31,385 (9.7%)	37,407 (10.8%)
75-84	12,315 (4.5%)	12,898 (4.5%)	12,681 (4.3%)	13,130 (4.2%)	15,375 (4.8%)	23,517 (6.8%)
85+	4,260 (1.5%)	4,898 (1.6%)	5,671 (1.9%)	6,193 (2.0%)	6,460 (2.0%)	8,455 (2.4%)

Source: U.S. Bureau of the Census, 1999

8.3.2 Impact of Minimum Staffing Requirement on Demand

Either of the two minimum staffing requirements identified by this study would result in a significant increase in the demand for nurses. The following staffing thresholds were identified (see Chapter 2 for further details):

- For the short-stay population, 2.4 hours per resident day and 1.14 hours for licensed staff, including 0.55 RN hours. (We refer to this as the short-stay staffing threshold).
- The thresholds were at 2.8 nurse aide hours and 1.3 hours for licensed staff, including 0.75 hours for RNs (This is referred to as the long-stay staffing threshold).

To estimate the impact that implementation of either of these two potential minimum staffing requirements, we used the 1998 OSCAR data that were used to develop cost estimates for the Phase I report. (Due to time constraints, we were not able to use more recent OSCAR data. Given the relative stability of staffing levels across time, however, estimates based on more current data should differ only slightly from those based on the 1998 data.) Estimates were based on the assumption that all facilities that currently staff below the potential minimum levels would increase staffing to exactly the required level.

Based on this assumption, the short-stay staffing threshold would result in the need for 78,000 more RNs, 28,000 LPNs, and 182,000 nurse aides (Table 8.3).² Given 1998 employment levels, this staffing requirement would result in a 52 percent increase in RN staffing, a 13 percent increase in LPN staffing, and a 26 percent increase in nurse aide staffing.

Given the proportion of RNs, LPNs, and nurse aides that work in nursing homes (from Table 8.1), adoption of the short stay staffing threshold would increase total demand (across all employment settings) for RNs by about 5 percent, the demand for LPNs by 6 percent, and the demand for nurse aides by close to 13 percent.

Given the large variation in staffing levels across states, adoption of this minimum staffing level would result in a much larger increase in demand in states such as Oklahoma, Iowa, and Kansas that have low staffing levels (see chapter 3 of the Phase I report for more information on the distribution of staffing levels by state). The impact in states with higher staffing levels would be less.

The staffing thresholds suggested by the long-stay analyses are higher than the short stay thresholds and would thus require larger staffing increases. To meet the long-stay threshold, nursing homes would need to hire an additional 137,000 RNs, 22,000 LPNs, and 310,000 nurse aides to meet the long-stay threshold (Table 8.4). Across all employment settings, adoption of the long-stay staffing threshold would increase demand for nurse aides by 22 percent, the demand for RNs by 9 percent, and the demand for LPNs by 5 percent.

Especially in areas that currently have low staffing levels, many facilities may experience difficulties in increasing staffing to the levels suggested by either the short or long-stay thresholds. For example, adoption of the long-stay threshold would require Oklahoma nursing homes nearly to double nurse aide staffing. On average, Kansas nursing facilities would need to increase nurse aide staffing by 80 percent. The staffing threshold identified by the long stay analyses would require Oklahoma nursing facilities to more than double RN staffing. It may be necessary to phase the staffing requirements in over a period of time to allow facilities gradually to increase staffing to the required level. Staffing increases of this magnitude will also likely require wage rate increases, to attract a sufficient workforce.

² Note that these figures are based on the assumption that average hours worked remain unchanged as a result of the staffing requirement. They are also based on the assumption that nurse aides work an average of 29 hours per week, RNs an average of 30 hours per week, and LPNs an average of 32 hours per week. These figures were derived by calculating the total number of hours worked from OSCAR for each type of nurse and dividing by the total number of RNs, LPNs, and nurse aides employed in nursing homes (from Table 1).

Table 8.3
Additional Nurses Required to Staff at Phase II Short Stay Thresholds

Staff Category	Current Employment [†]	Number [■]	Additional Staff Required to Meet Threshold [*]	
			Nursing homes	All Employment Settings
RN	150,230	77,949	51.9%	5.1%
LPN	208,030	27,813	13.4%	6.2%
Nurse Aide	695,570	181,843	26.1%	12.7%

Notes: [†]: Based on 1999 employment in nursing home figures from Bureau of Labor Statistics.

[■]: These figures were calculated by determining the number of additional nursing hours required to meet the staffing requirement and then converting this to a number of additional staff required using information from the BLS on total employment and information from OSCAR on total nursing hours. Using this approach, the average nurse aide works 29 hours per week, the average LPN 32 hours, and the average RN 30 hours.

^{*}: Analysis is based on the thresholds identified for the short-stay sample (2.4 hours per resident day for nurse aides, 0.55 hours for RNs, 0.59 for LPNs). RN Director of Nursing hours were not included, except for facilities with fewer than 60 beds.

Facilities identified as having unreliable staffing data were excluded from the analysis, but an adjustment factor was used to account for the excluded facilities.

Sources: OSCAR, Bureau of Labor Statistics

Table 8.4
Additional Nurses Required to Staff at Phase II Long Stay Thresholds

Staff Category	Current Employment [†]	Number [‡]	Additional Staff Required to Meet Threshold [*]	
			Nursing homes	All Employment Settings
RN	150,230	137,076	91.2%	8.9%
LPN	208,030	22,267	10.7%	4.9%
Nurse Aide	695,570	309,538	44.5%	21.7%

Notes: [†]: Based on 1999 employment in nursing home figures from Bureau of Labor Statistics.

[‡]: These figures were calculated by determining the number of additional nursing hours required to meet the staffing requirement and then converting this to a number of additional staff required using information from the BLS on total employment and information from OSCAR on total nursing hours. Using this approach, the average nurse aide works 29 hours per week, the average LPN 32 hours, and the average RN 30 hours.

^{*}: Analysis is based on the thresholds identified for the short-stay sample (2.8 hours per resident day for nurse aides, 0.75 hours for RNs, 0.55 for LPNs). RN Director of Nursing hours were not included, except for facilities with fewer than 60 beds.

Facilities identified as having unreliable staffing data were excluded from the analysis, but an adjustment factor was used to account for the excluded facilities.

Sources: OSCAR, Bureau of Labor Statistics

8.3.3 Other Factors That May Affect Future Demand

The demand for nursing services will be affected by the same general trends, including the proportion of the population enrolled in managed care, medical technology, payment policies, and the overall health status of the population, that influence workforce requirements for other types of health care providers. Workforce requirements may also be influenced by future changes in the types of care given by RNs, LPNs, and nurse aides. In addition, if facilities make changes (e.g., higher wage rates, increased benefit levels, adopt different management practices) that reduce turnover or increase retention, then that could reduce the required number of new entrants into the nursing professions.

Because of potential changes in these factors, future workforce requirements may be different from those suggested by population changes. It is not possible to predict with certainty how these other workforce-related factors will change in the future.

8.4 Factors Influencing Supply of Nurses

While there is little recent national data available on the extent of the nursing staff shortage in long term care facilities, many sources identify factors believed to contribute to the nursing shortage. These factors are also expected to affect the future supply of nurses. Issues that have been identified as contributing to the recruitment and retention of both professional

and paraprofessional staff are wage rates, labor market trends, demographic trends in the workforce, and features of the long-term care environment that make the setting unattractive to potential employees.

8.4.1 Impact of Wage Rate Changes on Nursing Supply

Low wage and benefit levels are widely cited as a major reason for the nursing shortage, particularly for nurse aides. In estimating the expected impact of changes in wage rates or benefit levels on the size of the nursing workforce, it is necessary to estimate how sensitive the nurse labor supply is to changes in wage rates. The elasticity of supply is a measure of the percentage change in quantity supplied in response to a one percent change in price. As part of measuring the costs of the staffing thresholds identified in the Phase I report, the CMS Office of the Actuary reviewed the labor economics literature and made assumptions about the long-run elasticity of supply for RNs, LPNs, and nurse aides:

- For RNs, the elasticity of supply was estimated to be between 0.5 and 0.8. This means that each 1 percent increase in RN wage rates increases the amount of labor supplied by RNs (including both increased hours for existing RNs and entry into the profession) by between 0.5 and 0.8 percent.
- Elasticity of supply for LPNs was estimated to be between 0.65 and 0.9, indicating that the LPN labor supply was slightly more responsive to wage changes than the RN workforce. A 1 percent increase in LPN wage rates would be expected to increase the amount of nursing care supplied by LPNs by between 0.65 and 0.9 percent.
- The elasticity of supply for nurse aides was estimated to be between 0.8 and 1.0, indicating that each 1 percent increase in nurse aide wage rates increases the amount of labor supplied by nurse aides by between 0.8 and 1 percent.

Given these elasticity estimates and the increase in demand that would result from the implementation of a minimum staffing requirement, we can estimate the increase in nurses' wage rates that would be required for facilities to be able to increase staffing to the required level. These are intended to be rough estimates, given the uncertainty about the elasticity of supply for RNs, LPNs, and nurse aides. It should be noted that these increases would also affect hospitals, home health agencies, and other employers of nurses, which must compete with nursing homes for nursing staff.

- The short stay threshold would increase RN wage rates by 2.5 to 4 percent, given our estimate that implementation of the threshold would increase total demand for RNs by about 5 percent. Given an average RN wage rate of approximately \$20.00 per hour, the staffing requirement would increase RN wage rates by \$0.50 to \$0.80 per hour.

- The short-stay threshold would increase LPN wage rates by between 4 and 5.6 percent, given the long-run elasticity figures above. Given the Bureau of Labor Statistics (BLS) \$14.40 per hour wage rate figure for LPNs, this represents an increase of between \$0.58 and \$0.81 per hour.
- To attract the nurse aide staff needed to meet the short-stay threshold, average nurse aide compensation would need to increase by between 10 and 12.7 percent, increasing the hourly wage rate for nurse aides by \$0.86 to \$1.09 per hour, given the BLS \$8.57 per hour estimate of nurse aide wage rates.

The higher thresholds identified based on analysis of the long-stay sample would require a somewhat larger wage rate increase.

- The 8.9 percent increase in demand for RNs would result in a 4.5 to 7 percent increase in RN wage rates, between \$0.90 and \$1.40 per hour given the elasticity figures described above.
- The long-stay threshold has a smaller impact for LPNs, and the resulting increase in demand would increase wage rates by between 3.3 and 4.5 percent.
- Demand for nurse aides would increase by almost 22 percent if the thresholds identified by the long-stay analyses were adopted. In order to meet the higher staffing levels, facilities would need to increase wage rates paid to nurse aides by between 17 and 22 percent, an increase of between \$1.45 and \$1.89 per hour, given an \$8.57 average hourly wage rate for nurse aides.

These figures are national averages, but there would be considerable variance in the impact on wage rates across states.

8.4.2 Factors Affecting RN Workforce

The RN nursing shortage is being driven by fundamental, permanent shifts in the labor market that are unlikely to be reversed over the next few years (Buerhaus et al, 2000). The nation's nursing workforce is aging. Between 1983 and 1998 the average age of working RNs increased by more than four years, from 37.4 to 41.9 years. During this period, the proportion of RNs under age 30 decreased from 30.3 to 12.1 percent. This aging of the RN workforce is expected to continue into the future. Buerhaus et. al. project that the size of the RN workforce is forecast to be nearly 20 percent below projected requirements by 2020.

Previous studies have identified a number of key factors likely to affect the size of the RN workforce in the future.

Decrease in students entering nursing school – Buerhaus et al. (2000) attribute the decreasing number of women entering nursing school to the recent expansion of career

opportunities and rising wages for women relative to men, as many women chose to enter other careers. They note that similar trends have occurred in other professions and occupations traditionally dominated by women (e.g. teachers, social workers, secretaries). Researchers believe that the current RN nursing shortage is fundamentally different from previous shortages, in that it is due to structural changes, primarily the combination of an aging population with fewer nurses entering the workforce.

In a recent study, women graduating from high school in the 1990s were 35 percent less likely to become RNs than women who graduated in the 1970s (Buerhaus, et al. June 2000). According to a 1999 Nursing Executive Center Report, between 1993 and 1996, enrollment in diploma programs dropped 42 percent and enrollment in associate degree programs declined 11 percent. Furthermore, between 1995 and 1996, enrollment in baccalaureate programs declined 19 percent, and enrollment in master's programs decreased 4 percent. Due to resource constraints and emphasis on master's degree preparation of advanced practice nurses, a number of nursing schools have cut back on baccalaureate admissions (Lubin, 1999).

Fewer nursing professionals are remaining in patient care – In March 2000, 18.3 percent of RNs reported not being employed in nursing, up slightly from 17.3 percent in 1992 (GAO, 2001A). The number of full time RNs has been calculated as being about 35 percent lower than that of twenty years earlier (Buerhaus et al., June 2000). Although the majority of nurses continue to work in hospitals, major shifts in nursing are taking place as a result of continuing cost pressures, the growth of managed care, and scientific and technological advances. Nurses have increasingly been working in other settings such as community and public health settings; the growth in this service sector is largely due to the growth in home health care (The National Academy of Sciences, 1996). A recent Federation of Nurses and Health Professionals survey found that half of the currently employed nurses who were surveyed had considered leaving the patient-care field for reasons other than retirement over the past two years (Peter D. Hart Research Associates, 2001). Of this group, 22 percent said that they were concerned about schedules and hours, and 18 percent wanted more money. The most frequent reason, however, cited by 56 percent of respondents, was the desire for a less stressful and physically demanding job.

Fewer RNs are choosing to work in long term care facilities – RNs and LPNs who do choose to remain in direct patient care frequently prefer to work in acute care rather than long term care settings (The National Academy of Sciences, 1996). Acute care is often viewed as more interesting and on the cutting-edge of nursing technology, while long term care nursing is viewed with less favor (Decker et al., 2000). Surveys show that the turnover rates of nurses in nursing homes range from 28 to 59 percent, while in acute care hospitals, turnover rates range only from 12 to 23 percent (Decker et al, 2000).

Public policy may affect the size of the nursing workforce. Recently introduced Federal legislation would prohibit mandatory overtime for licensed health care employees. The

impact of such a law on the amount of nursing care provided is uncertain. Eliminating mandatory overtime would presumably decrease the total amount of nursing hours worked, at least in the short run. In the long run, however, such a law may reduce exit from the profession and, by improving working conditions, it may also lead additional individuals to pursue nursing as a career. It is not possible to measure the net impact of this legislation on the nursing workforce.

8.4.3 Factors Affecting Nurse Aide Workforce

Unlike RNs, nurse aides face low barriers to entering their field. In some states, the occupation is open to individuals with little or no formal training.³ Because of the low barriers to entry, the potential supply of nurses aides is quite large. This differs from RNs, for whom entry can be measured based on the number of nursing school graduates. There is a great deal of transition in and out of the nurse aide profession, both due to exit from the labor force and substitution to other types of jobs. To some extent, the relative attractiveness of the types of entry level jobs that might induce nurse aides to leave the profession depends on the overall health of the economy.

Demographic changes -- The number of persons who have traditionally worked in the nursing workforce – women between 25 and 54 years of age – is expected to remain relatively unchanged over the period from 2000 to 2030.⁴ This is anticipated to limit the number of individuals who enter the nursing profession, either as licensed staff or nurse aides.

Low compensation -- In 1999, the national average hourly wage for aides working in nursing homes was \$8.29 (Homecare Salary & Benefits Report, 2000). CPS analysis showed that 18 percent of aides working in nursing homes fell below the poverty level. One in three aides working in nursing homes earned less than \$10,000 per year, and 36 percent reported family incomes below \$20,000 (GAO, 2001A). Most nursing homes do not offer pension coverage, and only 21 to 25 percent of aides in these settings are covered (GAO, 2001A). In a Massachusetts survey in 1998, 35 percent of the nursing homes pay less than half of their employees' individual premiums and 56 percent pay less than half the cost of family health insurance. For example, one worker's family health insurance costs \$102 per week while he/she earned \$9.24 per hour. Often, paraprofessionals earn too much for Medicaid, yet too little to afford private insurance premiums (Frank et al., 2000).

Economic conditions. The size of any future nursing shortage will be affected by the strength of the nation's economy. When unemployment rates are low, potential nurses and

³ The federal government requires that home health aides that receive reimbursement from Medicare pass a competency test covering 12 areas. Nursing assistants working in nursing facilities must complete a 75-hour training course and pass a certification examination.

⁴ According to the preliminary results from the 2000 Survey of Registered Nurses, only 5.4 percent of RNs were men, a slight increase from 4.9 percent in 1996.

nurse aides have many more employment alternatives outside of health care. When unemployment rates increase, there are fewer alternatives and the size of the nursing shortage should decline.

There is a great deal of transition in and out of the nurse aide occupation, due to both exit from the labor force and substitution to other types of jobs. This transition depends in part on the relative attractiveness of other entry-level jobs and general economic conditions. For the nurse aide workforce, exit due to transition between jobs or in and out of the labor force is likely to be much more important than exit due to retirement or mortality.

Exit from the profession -- According to Konrad (undated), less than 50 percent of the 180,000 North Carolinians trained to work as nursing aides during the last decade are currently certified to work as nurse aides. Among those who are certified, many apparently work only part-time as a nurse aide and have earnings from other unrelated jobs in low wage industries.

Working conditions -- Nationally, nurses and aides experience more physical injuries than other high-risk occupations (SEIU, 1992). The hazards and physical demands are significant; nursing homes have one of the highest rates of workplace injury, 13 per 100 employees, higher than the construction industry with a rate of 8 per 100 employees. Nurse aide jobs are physically demanding, often requiring moving patients in and out of bed, long hours of standing and walking, and dealing with patients or residents who may be disoriented or uncooperative (GAO, 2001A). Pressured by administrators to speed up, direct-care workers spend less time with patients and are often required to work overtime and double shifts (Dawson et al., 2001). NAs also lack the opportunities for involvement in care planning or other quality-assurance activities even though they spend the greatest amount of time with patients (Keunen et al., 2000).

Public policy -- The nation's policies related to immigration, welfare, the minimum wage level, and health care reform will impact the size of any future nursing shortage, particularly for nurse aides. Immigration policies can impact the size of both the licensed and unlicensed nursing workforce. Changes to welfare policy or the minimum wage are more likely to impact the nurse aide workforce. Section 8.5 reviews some initiatives for alleviating the nursing shortage.

Lack of opportunities for advancement -- There are few opportunities for skill upgrading or advancement for incumbent direct-care workers -- thereby limiting their access to career paths or their prospects for long-term employment in the sector (Keunen et al., 2000). Although some nursing homes provide opportunities for NAs to earn increased pay for increased responsibility, for many NAs, the only options for advancement would require leaving nursing home work or obtaining the education to become a licensed or registered

nurse. Oftentimes, the latter choice is not an option because many NAs do not have the time, money or interest to pursue this option (NCCNHR, 2001).

Lack of adequate training and supervision – Issues related to training and supervision are discussed in chapter 7.

High turnover rates - Issues related to turnover are discussed in chapters 4 and 5.

8.5 Initiatives and Strategies for Alleviating the Nursing Staff Shortage

In response to concerns about current and projected shortages of nursing facility staff in the long-term care industry, many governmental, public and private organizations have made recommendations for ways to improve the recruitment and retention of staff, and some states and provider groups have experimented with interventions. The focus of these initiatives has been primarily on improving wages and benefits, providing training and opportunities for advancement, and increasing employee supports for nurse aides.

Improving Wages and Benefits - Responding to the finding that wages and benefits have a significant impact on facilities' ability to recruit and retain qualified workers and have been found to have a direct correlation with job tenure, many states have been trying different methods of improving nurse aide compensation. Some options included 1) wage pass-through, which implements an increase that is solely dedicated to wages and/or benefits as an add-on to payment rates; 2) full reimbursement of providers who pay higher wages for afternoon, evening, weekend and holiday shifts, travel time for home health workers, step increases for job tenure, and for career ladders; 3) increasing direct care wages to a higher earning bracket in a stepped fashion over a period of time and indexing wages to labor market indicators rather than the consumer price index to ensure that health care wages are competitive in the labor market; and 4) public oversight of wage rates – convening key stakeholders to review adequacy of wages based on: vacancies, turnover, overtime, temporary pool use, analysis of wages for comparable jobs, and levels needed for economic self-sufficiency (Frank et al., 2000). As of 2000, 26 states had established some sort of a wage pass-through, wage supplement or related program. (NC Survey). Oklahoma's reform package set a minimum hourly wage for direct-care workers at \$6.65. Maryland increased Medicaid funding to the nursing cost-center by \$10 million in both 2002 and 2003, and Virginia passed a package to improve NA hourly wages by up to a \$1 per hour (Paraprofessional Healthcare Institute & National Citizens' Coalition for Nursing Home Reform, 1999-2000). Rhode Island has an enhancement system in place with bonuses ranging from \$.50 per hour to \$2.00 per hour (North Carolina Division of Facility Services, 1999). (See chapter 4 for more information on wage pass-through programs.)

Training and Opportunities for Advancement - Other attempts have been made by states and providers to improve training for direct care workers by proposing different levels of training, with the intent of providing nurse aides with an incentive to continue in the

profession such as the Wellspring Program and the California Caregivers Training Initiative. Virginia increased the minimum training hours for the nurse aide program from 80 hours to 120 hours. North Carolina currently requires a minimum of 75 hours of training and a competency test, or only the competency test, in order to be certified to work as a Nurse Aide 1 (North Carolina Division of Facility Services, 1999). Massachusetts initiated state grants to providers that funded \$1 million for scholarship programs to attract new aides, \$5 million for career ladder grant programs for aides, and \$1.1 million in education and job supports for current or former welfare recipients interested in a career as a NA. In 1999, Virginia Nursing Assistant Institute was developed by local officials, associations, and providers to offer comprehensive free or low-cost aide training (Scanlon 2001).

Increased supports – In order to address the problem of guidance and support, there have been several initiatives to provide peer support and networking opportunities for nurse aides. The Virginia Nursing Assistant Institute Initiatives and the Massachusetts Nursing Home Quality Initiative have implemented such developments (Scanlon 2001).

Other Suggested Strategies - Some advocacy groups such as the New York Association of Homes and Services for the Aging and the Paraprofessional Healthcare Institute suggest that nursing homes restructure their systems in order to take advantage of the skills of all workers, as well as allowing non-skilled workers to take over some functions such as feeding patients. Some programs such as that by affiliates with the Cooperative Healthcare Network, have been designed more directly around the paraprofessional employee (Dawson et al., 2000). To reduce work place related injuries and reduce staff turnover, the Paraprofessional Healthcare Institute has recommended increased investment in mechanical lifting equipment that could reduce the hazard to nursing home workers (McDonald, 1998). It has also been suggested that new populations such as former welfare recipient populations and volunteer populations should be tapped to increase the number of nurse aides (North Carolina Division of Facility Services, 1999). Workgroups in Florida and New Mexico have recommended funneling welfare recipients into nurse aide training programs.

Interventions focused on the shortage of professional staff - Strategies suggested for alleviating current and anticipated shortages in the number of RNs and LPNs in nursing home settings fall primarily into three categories. The first is providing increased funds available to encourage entry into nursing, such as scholarship programs and tuition assistance. The second is to encourage students enrolled in nursing programs to consider careers in chronic care settings by increasing emphasis on caring for the elderly in the nursing curriculum, and by including clinical rotations with a focus on geriatrics. Finally, there have been recommendations that the work environment of the chronic care setting be restructured, so that more nurses are available for patient care rather than being occupied with administrative duties.

8.6 Conclusions

An important consideration in evaluating the feasibility of a minimum nurse staffing requirement is whether the size of the nursing workforce is adequate to allow facilities to staff at the higher required levels. While available data limit the extent to which we can measure the size of the nursing shortage, there are good reasons for believing that a shortage currently exists, at least in certain parts of the country. Studies have found large increases in reported vacancy rates in recent years, and many nursing facilities report staff shortages. There are also good reasons for believing that the size of this shortage will increase over time.

Because of population changes, the demand for nursing care is expected to steadily increase. There is expected to be rapid growth of the elderly population—the number of individuals aged 85 and over, those most in need of nursing care, is expected to more than double over the next 30 years. Population trends suggest that the number of individuals entering the nursing profession will increase only slightly.

- Enrollment in schools of nursing has declined in recent years, and, as a result, the average age of the RN workforce has increased.
- The projected size of the female population between the ages of 25 and 54, the group which has traditionally filled most nurse aide positions, is expected to remain relatively unchanged between 2000 and 2030, limiting likely entry into nursing.

The staffing thresholds identified in Chapter 2 would require large staffing increases at some nursing homes. Nationwide, the potential staffing thresholds identified in this report would require facilities to hire an additional 77,000 – 137,000 RNs, 22,000 – 27,000 LPNs, and 181,000 – 310,000 nurse aides. The requirement would increase overall demand (across all employment settings) for nurse aides by 13 – 21 percent and increase overall demand for RNs by between 5 and 9 percent. Depending on overall economic conditions in the country, significant wage rate increases might be required in order for facilities to be able to meet the

higher staffing requirements. In states that currently have low staffing levels, the impact would be even larger.

Given assumptions of how sensitive the nurse labor supply is to changes in wage rates, we can estimate the increase in wages that would be required for facilities to staff at the higher levels that would be required under a minimum nurse staffing requirement. These increases would affect not only nursing homes, but also other sectors (hospitals, home health) that compete with nursing homes for nursing staff. The thresholds identified in Chapter 2 would increase RN wage rates by between 2.5 and 7 percent, an increase of between \$0.50 and \$1.40 per hour, given an average RN wage rate of \$20.00 per hour. For facilities to staff at the higher nurse aide levels that would be required, nurse aide compensation would need to increase by between 10 and 22 percent, an increase of between \$0.86 and \$1.89 per hour. The exact amount depends on the threshold adopted and the sensitivity of the nurse aide workforce to wage rate changes, but implementation of the minimum nurse staffing ratios identified in this report would have a considerable impact on nursing workforce requirements.

References

Buerhaus, P.I., Staiger, D.O., Auerbach, D.I., "Implications of an Aging R.N. Workforce," *JAMA*, June 14, 2000 – Vol. 283, No. 22.

Buerhaus, P.I. Staiger, D.O., Auerbach, D.I., "Policy Responses to an Aging Registered Nurse Workforce," *Nursing Economics*, Nov-Dec.2000 - Vol. 18, No.6.

Commonwealth of Massachusetts, Executive Office of Health and Human Services. *Report to the House and Senate Ways and Means Committees Nursing Facility Wage Increases to Certified Nursing Assistants As required by section 4000-1005 of the State Fiscal Year 2001 Budget*, April, 2001.

Dawson, S.L., Surpin, R., "Direct-Care Healthcare Workers: You Get What You Pay For," *Workforce Issues in a Changing Society*, Spring 2001.

Dawson, S.L, Surpin, R., "Direct-Care Health Workers the Unnecessary Crisis in Long-Term Care," Paraprofessional Healthcare Institute, January 2001.

Decker, F.H., Dollard, K.J., Guterman, S.S., Kraditor, K.R., Matthews-Martin, L., Schwartz, D., "Staffing of Nursing Services in Long Term Care: Present Issues and Prospects for the Future," Health Services Research and Evaluation American Health Care Association, November 2000.

Federation of Nurses and Health Professionals, *The Nurse Shortage: Perspective from Current Direct Care Nurses and Former Direct Care Nurses (opinion research study conducted by Peter D. Hart Research Associates)*, 2001.

Frank, B.W., Dawson, S.L., "Healthcare Workforce Issues in Massachusetts," Paraprofessional Healthcare Institute, June 2000.

Harrington, C., Zimmerman, D., Karon, S.L., Robinson, J., Beutel, P., "Nursing Home Staffing and Its Relationship to Deficiencies," *Journal of Gerontology*, Vol. 55, No. 5, S278-S287.

Healthcare Association of New York State, "The Crisis in Care," December 2000.

Hospitals & Healthcare Compensation Service, *Homecare Salary & Benefits Report 2000-2001, Homecare Salary & Benefits Report 1994-1995*.

Kleunen, A.V., Wilner, M.A., "Who Will Care for Mother Tomorrow?" *Journal of Aging & Social Policy*, Paraprofessional Healthcare Institute Vol. 11, No 2/3, 2000.

Konrad, T.R. "Where Have All the Nurses Aide Gone?", <http://facility-services.state.nc.us/aides.pdf>, 2001.

Law, C., "Presentation at Governor's Summit on Health Care Workforce Shortage," August 2001.

Lubin, V.H., "The New Nursing Shortage," *Environmental Scan*, June 1999.

McDonald, I., Muller, A., "The Staffing Crisis in Nursing Homes: Why It's Getting Worse & What Can Be Done About It," *Service Employees International Union*, March 1998.

The National Academy of Sciences, "Nursing Staff in Hospitals and Nursing Homes: Is It Adequate?" 1996 p. 68-91.

National Citizens' Coalition for Nursing Home Reform (NCCNHR), "The Nurse Staffing Crisis in Nursing Homes," 2001.

New York Association of Homes & services for the Aging, "The Staffing Crisis in New York's Continuing Care System," March 2000.

North Carolina Division of Facility Services, "Comparing State Efforts to Address the Recruitment and Retention of Nurse Aide and Other Paraprofessional Aide Workers," September 1999.

North Carolina Center for Nursing, "North Carolina Trends in Nursing: 1982-1998," December 1999.

Paraprofessional Healthcare Institute & National Citizens' Coalition for Nursing Home Reform, "National Survey on State Initiative to Improve Paraprofessional Health Care Employment," 1999-2000.

Service Employees International Union, AFL-CIO, CLC, "The National Nurse Survey," 1992.

Service Employees International Union, AFL-CIO, CLC, "Behind the Headlines: How Short Staffing and Underfunding Puts California Nursing Home Residents at Risk," March 2000.

Stone, R.I., "Research on Frontline Workers in Long-Term Care," *Workforce Issues in a Changing Society*, Spring 2001.

"The Registered Nurse Population: National Sample Survey of Registered Nurses – March 2000: Preliminary Findings". Health Resources and Service Administration, February 2001.

United States General Accounting Office (2001A), "Nursing Workforce: Recruitment and Retention of Nurses and Nurse Aides Is a Growing Concern," (Rep. No. GAO-01-750T). Washington, D.C. United States General Accounting Office, May 17, 2001.

United States General Accounting Office (2001B), "Nursing Workforce: Multiple Factors Create Nurse Recruitment and Retention Problems," (Rep. No. GAO-01-912T). Washington, D.C. United States General Accounting Office, 2001.

Wilner, M.A., Wyatt, A., "Paraprofessionals on the Front Lines: Improving their Jobs Improving the Quality of Long-Term Care," Paraprofessional Healthcare Institute, September 1998.